



AM-UST-10

Description

The AM-UST is one of the most compact and cost-effective level transducers on the market. Inside a package about the size of a quarter DIN enclosure is a full feature ultrasonic transducer that outputs directly either a 4-20 mA analog signal or two Modbus over RS485 digital signals. The unit is powered by a 9 -36 VDC power supply.

Special microballoon radiating material couples the piezoelectric crystal vibrations into the air with perfect impedance matching. The result is a very narrow beam angle. The embedded software automatically locks onto the true level while filtering out false echoes. Combining impedance matching of the crystal produces a 3 degree effective beam angle.

Simply plug the sensor adapter into your computer and you can program the AM-UST. To calibrate simply set the empty level and span. This automatically sets the 4-20 mA output.

With no moving parts the AM-UST will provide years of maintenance-free operation.

Features

- Non-contact ultrasonic level measurement
- Open channel measurement for level, flow, volume and pump control
- Effective 3° beam angle
- 2 SPDT Relays for alarm and pump control
- 4-20 mA and 2 Modbus / RS-485 output
- 9-36 VDC power supply
- Embedded software for simple user programming
- Simple to install and calibrate

Applications

- Chemical level control
- Viscous or corrosive liquids
- Wastewater monitoring
- Inventory monitoring
- Wastewater disinfection
- Storage tank level

Model AM-UST Ultrasonic Level Transducers

| | AM-UST-03 | AM-UST-10 |
|-----------------------------------|---|-----------------------------------|
| Measurement Range | 0.15 to 3 m (0.5 to 10 ft) | 0.3 to 10 m (1 to 33 ft) |
| Deadband (Near Blanking) | 0.15 m (0.5 ft) | 0.3 m (1 ft) |
| Accuracy | Greater of 0.1% of range or 2 mm | Greater of 0.25% of range or 6 mm |
| Repeatability | 1.5 mm | 3 mm |
| Resolution | Greater of 0.1% of range or 2 mm | Greater of 0.1% of range or 6 mm |
| Frequency | 125 KHz | 50 KHz |
| Update Time | 0.5 seconds | 0.5 seconds |
| Effective Beam Angle ¹ | 3 degrees | 3 degrees |
| Mounting ² | 1.5" NPT, BSP or G | 2" NPT, BSP or G |
| Mode of Operation | Level, Distance, Flow, Volume or Pump Control | |
| Points of Measurement | Single channel. 247 transducers can be multiplexed via RS-485 | |
| Power | 9 to 36 VDC. < 6 W (5W without relays energized) | |
| Low Power Option | 12 VDC with < 100 mA for incremental wake-up level readings | |
| Temperature Compensation | Internal Temperature Sensor (± 0.1 °C precision) | |
| Digital Echo Processing | SENSOR Logic, Smart algorithms with auto mapping | |
| Analog Output | 4-20 or 0-20 mA, 12 bit resolution | |
| Relays | 2 SPDT Relays, 5 A @250 VAC /30 VDC | |
| Communication | 2 RS-485 Modbus RTU Ports | |
| Programming | SENSOR PC software for programming via USB to RJ-11 adapter | |
| Temperature Range | -40 °C to 85 °F (-40 °F to 185 °F) | |
| Pressure Range | 0.5 bar (7 psi) | |
| Environmental Ratings | NEMA 4X, IP66, EN 60529) | |
| Material | Wetted: PVDF. Electronics: Fiberglass | |
| Cable Entry | 2 cable glands 1/2" NPT (Options: Liquid-tight or Conduit fittings) | |

¹ Effective beam angle is the processed beam angle when using SENOR LOGIG algorithm

² Locking Nut is included for mounting purposes

Dimensions

| | AM-UST-03 | AM-UST-10 |
|---------------|----------------------------|----------------------------|
| Bottom Thread | 1.5" NPT / TBSP / G | 2" NPT / TBSP / G |
| Electronics | 120x122 mm (4.72" x 4.80") | 120x122 mm (4.72" x 4.80") |
| Total height | 191 mm (7.5") | 191 mm (7.5") |
| Weight | 1.45 kg (3.2 lbs) | 1.54 kg (3.4 lbs) |

Order Information

| Model | Range |
|-----------|-------------------|
| AM-UST-03 | 0 to 3 m (10 ft) |
| AM-UST-10 | 0 to 10 m (30 ft) |

Related Products

AM-SLT Ultrasonic Level Analyzer